

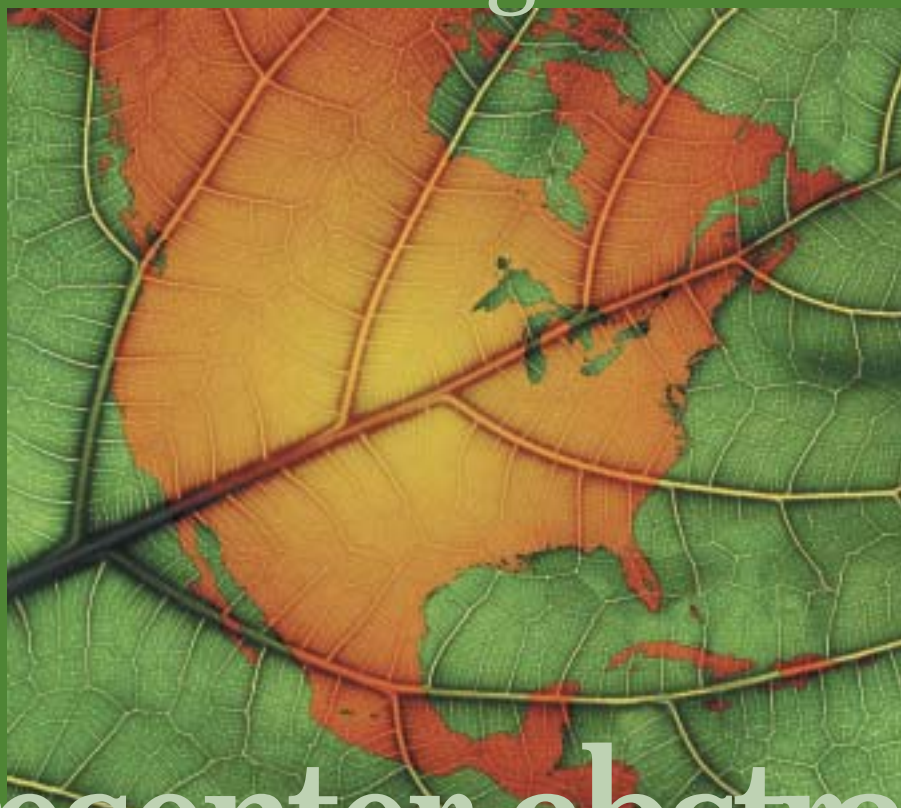


Tobacco Control Research Branch

Behavioral Research Program

Division of Cancer Control and Population Sciences

# Tobacco Use Among Youth – Research Investigators Meeting



## presenter abstracts

June 6-8, 2001

David Holland Resort Lodgings

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# Do Adolescent Smokers Experience Withdrawal Effects When Deprived of Nicotine?

\* Presenter: Seth Ammerman, M.D., Associate Clinical Professor, Stanford University

This is the first controlled prospective study of the effects of nicotine deprivation in adolescent smokers. Heart rate and subjective withdrawal symptoms were measured over an 8-hour period while participants smoked normally. Seven days later, participants were randomized to wear a 15-miligram (16-hour) nicotine patch or placebo patch for 8 hours, and they refrained from smoking during the session. Those wearing the placebo experienced a decrease in heart rate across sessions and an increase in subjective measures of nicotine withdrawal. Those wearing the active patch also reported significant increases for some subjective symptoms. Expectancy effects were also observed. The findings indicate that adolescent smokers experience subjective and objective changes when deprived of nicotine. As in previous research with adults, expectancies concerning the effects of nicotine replacement also influenced perceptions of withdrawal.

\*Principal Investigator: Joel Killen, Ph.D.,  
Professor, Stanford University School of Medicine, Palo Alto, CA

## Cigar Policy and Reversing the Trend: Role of the Media

Presenter: Lisa Bero, Ph.D., Professor, University of California, San Francisco

In 1994, there were over 125,000 new cigar smokers in the United States. Although cigar use remains below the peak years in the 1960s, consumption increased in 1994 for the first time since 1974 and peaked in 1997. Reasons for increasing cigar use are unclear, but the role of potentially modifiable social or cultural factors “external” to individuals, such as coverage in media, and advertising by the tobacco industry, has not been addressed. This study sought to better understand the roles of media in shaping the cigar-smoking trend during the years 1987-1996.

The number of cigar-focused newspaper and magazine articles also rose significantly during the study period. In 1987 there were 19 cigar-focused newspaper articles and 12 magazine articles published, and in 1997 there were 130 newspaper and 74 magazine articles published. The image of cigars portrayed in these articles is primarily positive, the health effects of cigars are rarely mentioned, and when health effects are mentioned, they are minimized. In addition, only 6 percent of the individuals quoted or described in the newspapers and 2 percent of those in magazines were associated with public health or government, while 38 percent of the individuals in newspaper articles, and 51 percent of the individuals in magazine articles were affiliated with the tobacco industry. We also have obtained 215 articles in response to our request for high school newspaper articles on tobacco and found that tobacco control policy issues were often covered. We analyzed 141 Internet Web sites marketing cigars, and a paper detailing our findings is under review. At least 30 percent of these sites may appeal to youth, and few barriers to youth tobacco purchase exist via this medium. Health warnings were included in 2 percent of sites examined and 75 percent of the sites did not explicitly bar purchase of cigars by minors.

# Youth with Multiple Problem Behaviors

Presenter: Anthony Biglan, Ph.D., Senior Scientist, Oregon Research Institute

The existence of a small group of multiproblem youth has been clear at least since Jessor, who first described the phenomenon of deviance-prone youth. However, despite literally hundreds of studies showing that delinquency, substance use, and high-risk sexual behavior co-occur, few have delineated the implications of this phenomenon for policy, practice, and research. Prevention and treatment strategies typically focus on only a subset of problems, and fail to examine their impact on the entire range of problems. And, despite the fact that family, school, peer, and community influences on the development of the multiproblem pattern have been identified from the prenatal period through adolescence, comprehensive, evidence-based approaches to preventing such development are generally not in widespread use in this country. This presentation summarized the evidence on the relationships among problem behaviors, the prevalence of multiproblem youth, their costs to society, the etiological factors influencing the development of multiple problems, and the opportunities for preventing such developments throughout the life span of childhood. Strategies for advancing the use of empirically based interventions to prevent multiple problem development were also discussed.

## Smoking Cessation in Teens with Co-Morbid Psychopathology

Presenter: Richard Brown, Ph.D., Director of Addictions Research,  
Butler Hospital, Brown University

Adolescent cigarette smokers have disproportionately high rates of co-occurring psychiatric and substance use disorders. The overall objective of this research program is to test the comparative efficacy of a maximal, tailored, and sustained motivational interviewing-based smoking cessation treatment (MI) versus a minimal, brief advice smoking cessation treatment (BA) in adolescent cigarette smokers hospitalized for a co-morbid psychiatric and/or substance use disorder. This paper reports on short-term, in-hospital intervention effects on readiness for change and self-efficacy. We found a treatment X baseline readiness interaction, such that teens with low baseline readiness were more likely to increase in readiness to change with MI than with BA. Furthermore, teens in the MI condition demonstrated a greater increase in self-efficacy for quitting smoking than those in the BA condition. MI may hold promise for smoking interventions in adolescents with psychiatric co-morbidity; however, findings should be interpreted cautiously pending a demonstration of relationship between these proximal outcomes and smoking outcomes.

# Success and Challenges in Implementing the Considerthis.org: Smoking Prevention and Cessation Web Site in Middle Schools

Presenter: David Buller, Ph.D., Senior Scientist, AMC Cancer Research Center

Considerthis.org is a Web-based smoking education program designed to assess students' knowledge, attitudes, and behaviors regarding smoking, and to provide them with a series of lessons progressively tailored to meet their specific needs. This program was implemented in schools during the 2000-2001 school year and data analysis is underway, but not complete. The following presentation will describe the challenges faced by project staff in developing, implementing, and evaluating the program.

## Outcomes of School-Based Smoking Prevention Programs May Vary with Settings: Developing Tools to Support Evidence-Based Practice

Presenter: Roy Cameron, Ph.D., Director, Center for Behavioral Research  
and Program Evaluation, University of Waterloo; in cooperation with  
Canadian Cancer Society/National Cancer Institute of Canada

A social influences smoking prevention program, implemented in grades 6-8, was effective only in high risk schools, i.e., those with high smoking rates among senior students prior to intervention (Cameron, Brown, Best et al, *American Journal of Public Health* Dec, 1999). The findings imply that the same population-level impact could be achieved for a fraction of the cost, if these intensive programs were implemented only in high-risk schools.

These findings prompted us to launch the development of a School Smoking Profile (SSP) to identify high-risk schools, in order to target programming. The SSP provides a detailed description of smoking patterns in the entire student body at a cost of about \$1 per student; this includes a computer-generated report for the school to support intervention planning. The SSP also may be useful for evaluating the impact of school-, community-, and provincial- or national-level interventions on youth smoking (e.g., Geoff Fong's study of warning labels, described in this session). Since the questionnaire is machine readable, there may be an opportunity to create a national database of school smoking profiles that would make it possible to identify schools or communities that were showing outstanding success in reducing youth smoking, providing an alternative to clinical trials for guiding practice.



# Marketing to Youth: Evidence from Corporate Documents

Presenter: K. Michael Cummings, Ph.D., M.P.H., Senior Scientist,  
Roswell Park Cancer Institute

**Objective:** To evaluate the claim that the tobacco industry does not market its products to youth.

**Design:** The data for this study come from tobacco industry documents collected from the tobacco industry's document Web sites, presently linked at <http://www.tobaccoarchives.com>. The Web sites were searched using Request For Production (RFP) codes, specified keyword searches, and serendipitous terms identified in document citations found with RFP and keyword searches.

**Results:** Industry documents show that the cigarette manufacturers carefully monitored the smoking habits of teenagers over the past several decades. Candid quotes from industry executives refer to youth as a source of sales, and as fundamental to the survival of the tobacco industry. The documents reveal that the features of cigarette brands (i.e., use of filters, low tar, bland taste, etc.) and packaging (i.e., size, color, and design) were developed specifically to appeal to new smokers (i.e., teenagers). Evidence also indicates that relevant youth-oriented marketing documents may have been destroyed and that the language used in some of the more recent documents may have been sanitized to cover up efforts to market to youth.

**Conclusions:** The tobacco industry's own internal documents reveal an undeniable interest in marketing cigarettes to underage smokers. Industry documents also validate several methods for tobacco prevention: 1) keep the price of the product high; 2) keep product placements and advertising away from schools and other areas with a high volume of youth traffic; 3) make product packaging and advertising unappealing to youth; and 4) design the product so it is not easy to inhale.

## The SMART Teens Against the Risks of Tobacco Project: A Worksite-Based Methods Development Study

\* Presenter: Pebbles Fagan, Ph.D., M.P.H., Health Scientist,  
Tobacco Control Research Branch, National Cancer Institute

To reduce smoking among older adolescents, innovative channels and methods are needed to boost the effectiveness of tobacco prevention and cessation programs. The SMART Teens Against the Risks of Tobacco Project was a Phase II methods development study designed to test the feasibility and efficacy of intervention and evaluation methods used in grocery stores. The SMART study was based on the social, ecological model and included the following stages: 1) initial formative research and intervention design; 2) ongoing design and implementation of a small-scale randomized study to estimate the efficacy of the intervention; and 3) the evaluation of the intervention. The 12-month intervention study was based in nine grocery stores located in the Boston, Massachusetts, metropolitan area and targeted working adolescents ages 15-18. Baseline, 60-day, and final survey data were collected in four intervention and five control sites. Preliminary results indicate no significant differences between intervention and control sites with

regard to 30-day smoking prevalence, number of days smoked, cigarettes smoked per day, and quit attempts in the past 6 months. However, 30-day smoking prevalence slightly decreased in both sites and the percentage of teens smoking on 21 or more days increased by 4 percent in the intervention sites. Less than 8 percent of teens in the total sample were heavy smokers at baseline and final. The percentage of teens who tried at least one quit attempt in the past 6 months increased in both sites. Challenges to conducting the study in the grocery store setting include high turnover rates, the chaotic fast pace of the retail sector, inconsistent management support and stability, variable store culture, part-time employment, and low one-on-one interactions. Researchers who seek to test a tobacco control program in the worksite may develop methods to frequently monitor teen employment patterns, and employ multiple strategies to increase survey response rates and intervention dose.

\*Principal Investigator: Gloria Sorenson, Ph.D., M.P.H., Dana Farber Cancer Institute, Boston, MA

## Early Patterns of Smoking Acquisition by Adolescents

Presenter: Chris Lovato, Ph.D., M.A., Associate Professor, Center for Community Health Research, University of British Columbia, Canada

Several models describing the acquisition of cigarette smoking in adolescents concur that the stages involved include preparation/contemplation, trying, experimenting, regular smoking, and established/daily smoking. This study focuses on early patterns of smoking acquisition and how these results fit current theory. Thirty-five adolescents, 14 to 18 years old, and either current smokers or former experimenters, provided a narrative account of their smoking history in semistructured interviews. At the end of the interview, participants outlined their smoking history on a piece of paper with a horizontal line representing age. A period of trying or experimenting was not common to all youth. The period between the second cigarette and established smoking ranged from 1 week to 4 years. For some youth, there were multiple starts and stops, long lapses in smoking, and a variety of types of smoking behavior (e.g., puffing or dragging, not inhaling). Adolescent descriptions generally match current theory, however, multiple patterns and a more complex sequencing of phases were observed. There appear to be important individual differences in how adolescents become smokers. Secondary approaches that focus on preventing movement through the smoking acquisition process are warranted.

## Best Practices in Youth Tobacco Use Cessation

Presenters: Catherine Maule, Manager, Canadian Tobacco Control Research Initiative, and Micah Milton, M.P.H., Behavioral Scientist, CDC

Recent evidence has begun to indicate that youth may become physically and/or psychologically dependent on tobacco very rapidly. Although most believe they will not continue to use tobacco, they are often unable to quit on their own, putting them at risk for later tobacco-related disease and disability. Successful programs and interventions are needed to support youth in their attempts to quit. The body of evidence related to youth cessation is growing, but is still relatively weak, and it is generally unclear to practitioners and decisionmakers what interventions are most likely to support youth successfully. This



year a group of cessation researchers, practitioners, and decisionmakers have engaged in a process to determine good practices in youth cessation based on the best available evidence and experiences. Recommendations are being developed for the field that will include specific instructions for selecting and implementing the most appropriate interventions for a particular population, such as a group of high-risk teens in a local high school or the youth of an entire State. This presentation will describe the process that was employed by the group, and the resulting series of recommendations for the “best” practices currently available for youth cessation. Needs for future research and evaluation will also be presented.

## Hutchinson Smoking Prevention Project: Long-Term Randomized Trial in School-Based Tobacco Use Prevention—Results on Smoking

Presenters: Arthur V. Peterson, Jr., Ph.D., Professor, Fred Hutchinson Cancer Research Center, and Kathleen A. Kealey, C.T.R., Project Manager, Fred Hutchinson Cancer Research Center

**Background:** No long-term impact has yet been observed with the use of the social-influences approach to school-based smoking prevention for youth. However, whether this lack of impact is due to methodological problems with the studies or to the failure of the interventions is unclear. The Hutchinson Smoking Prevention Project (HSPP), conducted from September 1984 through August 1999, aimed to attain the most rigorous randomized trial possible to determine the long-term impact of a theory-based, social-influences, grade 3-12 intervention on smoking prevalence among youth.

**Methods:** Forty Washington school districts were randomly assigned to the intervention or to the control condition. Study participants were children enrolled in 2 consecutive third grades in the 40 districts ( $n = 8388$ ); they were followed to 2 years after high school. The trial achieved high implementation fidelity and 94 percent followup. Data were analyzed with the use of group-permutation methods, and all statistical tests were two-sided.

**Results:** No significant difference in prevalence of daily smoking was found between students in the control and experimental districts, either at grade 12 (difference [ $\hat{\mu}$ ] = 0.2 percent, 95 percent confidence interval [CI] = -4.6 percent to 4.4 percent, and  $P = .91$  for girls;  $\hat{\mu} = 0.3$  percent, 95 percent CI = -5.0 percent to 5.5 percent, and  $P = .89$  for boys) or at 2 years after high school ( $\hat{\mu} = -1.4$  percent, 95 percent CI = -5.0 percent to 1.6 percent, and  $P = .38$  for girls;  $\hat{\mu} = 2.6$  percent, 95 percent CI = -2.5 percent to 7.7 percent, and  $P = .30$  for boys). Moreover, no intervention impact was observed for other smoking outcomes, such as extent of current smoking or cumulative amount smoked, or in subgroups that differ in *a priori* specified variables, such as family risk for smoking.

**Conclusion:** The rigor of the HSPP trial suggests high credence for the intervention impact results. Consistent with previous trials, there is no evidence from this trial that a school-based social-influences approach is effective in the long-term deterrence of smoking among youth. [*J Natl Cancer Inst* 2000; 92:1979–91]

# Media Influences on Adolescent Smoking

Presenter: James Sargent, M.D., Associate Professor,  
Dartmouth-Hitchcock Medical Center

The presentation summarizes our research on the association between viewing tobacco use in movies and teen smoking. Content evaluation of more than 600 popular contemporary motion pictures shows almost universal inclusion of tobacco use depictions. A cross-sectional study involving young northern New England adolescents shows a strong association between viewing movie tobacco use and trying smoking. Among adolescents who have never tried smoking, those with higher exposure to movie tobacco use have more favorable attitudes toward smoking. Moreover, adolescents whose parents restrict them from viewing R-rated movies have markedly lower rates of tobacco use. The study supports the hypothesis that viewing depictions of tobacco use in movies influences adolescents to smoke.

# The PATCH Project: Preventing Addiction to Tobacco Among Adolescents

Presenter: R. Craig Stotts, R.N., Dr.P.H., Professor,  
University of Arkansas Medical Sciences

This study focused on cessation of spit tobacco (ST) use among youth. We enrolled 303 adolescent males from throughout the State of Arkansas. They were aged 14-19, regular users of ST for at least 1 year, and had an interest in quitting within the next few weeks. They were then randomized into one of three arms: usual care (minimal intervention), behavioral intervention plus nicotine patch, or behavioral intervention plus placebo patch. The last two groups received 6 weeks of 1 hour per week classes and 6 weeks of patch usage. Multiple incentives were given to maintain compliance with the regimen including soft drinks, pizza, and \$5 gift certificates for each session. Following this intervention, these two groups received stage-based phone counseling every 3 months, plus a quarterly newsletter about the project that also included stories about some of the subjects, and how they were maintaining their abstinence. At 6 months, about 60 percent of the two intervention groups reported no ST use, and about 40 percent reported abstinence from all tobacco products. At 1 year, 54 percent reported no ST use and 26 percent reported no tobacco use. There were no significant differences in the groups by type of patch worn, which indicates that the active nicotine patch did not improve results over those obtained by the behavioral intervention. These preliminary analyses also indicated that no other variables were associated with successful cessation.

# Positive Youth Development

Presenter: Jonathan F. Zaff, Ph.D., Research Associate, Child Trends

This presentation examined some of the physical, cognitive, and social changes that adolescents experience, and the development that coincides with these changes. Positive outcomes that we can promote among adolescents, which potentially make adolescents better citizens and more resilient to adversity were also discussed. Promoting positive development also may lead to the reduction of negative behaviors such as smoking and violence.

The presentation focused on outcomes in adolescence (i.e., mental health, physical health and safety, emotional well-being, positive citizenship, positive social relationships, good reproductive health, and education and skills) that are changeable. These outcomes are influenced by proximal factors such as individual characteristics (e.g., genetic predispositions, personality traits, and self-concept), parents, siblings, and peers. Program developers and policymakers should also be aware of more distal factors in an adolescent's environment such as schools, the neighborhoods in which adolescents live, the media, public policies, and even societal norms.